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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,421	07/03/2001	Tobias Ruland	1454.1075	8328

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EXAMINER	
SHORTLEDGE, THOMAS E	
ART UNIT	**PAPER NUMBER**
2654	

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/897,421	RULAND, TOBIAS	
	Examiner	Art Unit	
	Thomas E Shortledge	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/22/2003*. md 10/03/2001
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ting (5,930,746), and in view of Choi et al. (Analysis System of Speech Acts and Discourse Structures Using Maximum Entropy Model).

As to claims 1, 13, and 14, Ting teaches:

a context in the narrower sense for combinations of states and speech units, which is composed of speech categories, states, including resultant states, and actions (tagging each word in the input with a coded tag, where the coded tag represents the speech category, the states, the resultant states, and actions, col. 3, lines 41-50, and col. 4, lines 5-44);

the utterance divided into the speech units (tagging each word with a coded tag, col. 3, lines 41-50);

the speech units are assigned to the speech categories (tagging each word with a coded tag, col. 3, lines 41-50);

the state is determined (tagging each word with a coded tag, where the tag represents the state of the unit, col. 3, lines 41-50, and col. 4, lines 5-44);

one or more actions are assigned to the combination of state and speech category with a probability (the coded tag assigned to each utterance contains an action, state and speech category, (col. 4, lines 5-44), where the structure is statistically processed, (col. 6, lines 52-55));

a number of resultant states are determined by carrying out the actions (finding the probable dependency structure of the input sentence in terms of the parts of speech contained in the sentence, (col. 6, lines 35-38). It would be necessary that when the dependency structure is found the resultant states for each action would also be found);

the method is carried out again starting from the combination of the state with the speech category of a speech unit for at least on of the resultant states so that further speech units of the utterance are processed (input is processed by a word by word sequence (col. 3, lines 45-50), it would be necessary to process one word then process the next after the first was finished).

Ting does not teach:

an expanded context for the combinations of states ad speech units which contains syntactic variables which are not contained in the context in the narrower sense, nor

a probability depends on the expanded context.

However, Choi et al. teach:

an expanded context for the combinations of states ad speech units which contains syntactic variables which are not contained in the context in the narrower sense (a dialogue analysis model to determine the speech acts of the utterances, page 231, col. 1).

a probability depends on the expanded context (finding a statistical model representing the speech act analysis, page 232, col. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the part of speech tagging method of Ting with the dialogue analysis model of Choi et al. to analyze dialogues more effectively, as taught by Choi et al. (page 236, col. 2).

As to claim 2, Ting does not teach the expanded context contains the dialogue act of the utterance.

However, Choi et al. teach a dialogue analysis model to determine the speech acts of the utterances, (page 231, col. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the part of speech tagging method of Ting with the

dialogue analysis model of Choi et al. to analyze dialogues more effectively, as taught by Choi et al. (page 236, col. 2).

As to claim 3, Ting does not teach the expanded context contains the speech unit itself and/or further speech units of the utterance.

However, Choi et al. teach a model that contains the speech units of the utterance, (page 231, col. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the part of speech tagging method of Ting with the dialogue analysis model of Choi et al. to analyze dialogues more effectively, as taught by Choi et al. (page 236, col. 2).

As to claim 4, Ting does not teach the expanded context contains the speech style in which the speech unit and/or the utterance was spoken.

However, Choi et al. teach each utterance is annotated with the speaker, (page 231, col. 2). It would be necessary that if the speaker is attached the utterance the style used by the speaker would also be attached.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the part of speech tagging method of Ting with the dialogue analysis model of Choi et al. to analyze dialogues more effectively, as taught by Choi et al. (page 236, col. 2).

As to claim 5, Ting teaches an order is allocated to the speech units, and in that the speech units are processed in this allocated order, (the units are processed in a word by word order, starting from the left of the input, col. 3, lines 41-50).

As to claim 6, Ting teaches the allocated order corresponds to the order, or the inverted order of the speech units in the utterance, (the units are processed in a word by word order, starting from the left of the input, col. 3, lines 41-50).

As to claim 7, Ting does not teach the expanded context is divided with respect to the syntactic variables into a plurality of subcontexts.

However, Choi et al. teach the dialogue corpus used to define each utterance is divided into areas such as speaker, syntactic patter, speech acts, and discourse structure, (page 231, col. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the part of speech tagging method of Ting with the dialogue analysis model of Choi et al. to analyze dialogues more effectively, as taught by Choi et al. (page 236, col. 2).

3. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ting, in view of Choi et al. as applied to claim 1 above, and further in view of the disclosed prior art.

As to claim 8, Ting and Choi et al. do not teach the method is a stochastic parsing, in particular a stochastic LR parsing.

However, the prior art teaches using a LR parser (specification page 2, lines 15-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the part of speech tagging method of Ting with the dialogue analysis model of Choi et al. and with the LR parser of the prior art to increase the ease of use and efficiency of the system.

As to claim 9, Ting teaches one or more actions are assigned to a combination of state and speech category by a parsing table, (a parsing machine is used to tag each of the units with a coded tag, where the coded tag represents the action, state and speech category, col. 4, lines 5-41, and col. 6, lines 45-48).

As to claim 10, Ting teaches the method has a stack (tree), (creating a dependency parse tree, col. 6, lines 61-62).

As to claim 11, Ting does not teach the expanded context contains an extreme speech category of the stack.

However, Choi et al. teach the dialogue corpus contains the discourse structure, where the discourse structure represents the part of speech and the category of the unit, (page 231, col. 2). It would be necessary that since the stack contains the part of

speech and the category of the units, and Choi et al. also teaches a corpus containing the part of speech and category of the units, the dialogue corpus would contain an extreme of the stack.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the part of speech tagging method of Ting with the dialogue analysis model of Choi et al. to analyze dialogues more effectively, as taught by Choi et al. (page 236, col. 2).

As to claim 12, Ting does not teach the expanded context contains an extreme non-terminal speech category of the stack.

However, Choi et al. teach the dialogue corpus contains the discourse structure, where the discourse structure represents the part of speech and the category of the unit, (page 231, col. 2). It would be necessary that since the stack contains the part of speech and the category of the units, and Choi et al. also teaches a corpus containing the part of speech and category for each of the units within the input, the dialogue corpus would contain an extreme non-terminal of the stack.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lambert et al. (A Tripartite Plan-Based Model of Dialogue), Liddy et al. (5,963,940), Schabes et al. (5,537,317), and Black, Jr. et al. (5,331,556).

Lambert et al. teach modeling three different kinds of actions within the input.

Liddy et al. teach processing an input query by using morphological, lexical syntactic, semantic discourse.

Schabes et al. teach a grammar checking system in which a sentence is first tagged as to part of speech, and finding the probability of the sequence of parts of speech.

Black, Jr. et al. teach executing linguistic analysis upon a text corpus file to derive part-of-speech information as well as lexical variants corresponding to resective corpus words.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas E Shortledge whose telephone number is (703)605-1199. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Smits can be reached on (703)306-3011. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TS
3/9/05

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER